

W5YI

National Volunteer Examiner Coordinator

REPORT

Up to the minute news from the world of amateur radio, personal computing and emerging electronics. While no guarantee is made, information is from sources we believe to be reliable. May be reproduced providing credit is given to The W5YI Report.

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COVENANTS CONTRARY TO TV BROADCASTERS, HAMS

"Whether they intend to or not, real estate developers are making communications policy decisions. By prohibiting all outdoor antennas in communities where it is simply not possible to obtain good television reception with an indoor antenna, they are leaving home buyers with no choice but to subscribe to cable television. If builders continue to impose these restrictions, there will eventually be thousands (or more likely millions) of people living in neighborhoods or entire communities where the traditional rooftop television antenna is prohibited. With cable likely to win nearly 100 percent market penetration in these areas -- and with the last vestiges of the 'must carry' rule having disappeared into history, broadcasters will have to rely on the charity of cable operators if they are to keep these new communities in their service areas. Moreover, participation in other federally licensed communication activities such as amateur radio is being effectively prohibited in entire communities, again thwarting federal objectives. In the end, it is quite possible that the nation's real estate developers will do what the FCC has not done by regulatory decree: conclusively tip the scales in the ongoing struggle between over-the-air broadcasters and the cable industry"

[Conclusion of field study by Dr. Wayne Overbeck, N6NB, California State University at Fullerton.]

The American Radio Relay League has filed a massive 12 page response to the FCC's Mass Media Bureau "must carry" inquiry. The proceeding seeks information on the **Availability of Broadcast Signals on Cable Television Systems**. The primary issue is the ability of the public to receive broadcast television signals over-the-air as an alternative to cable carriage of those signals.

The League said that while it normally does not get involved in matters outside the scope of direct interest to the Amateur Radio Service, it is necessarily very concerned about regulation of outside antennas and their structures. ARRL concludes the broadcast television viewer and amateur radio operator share the same problem.

Restrictive "covenants", deed restrictions and unreasonable regulation by homeowner's associations of radio and television antennas are increasing and serve to preclude effective off-air re-

ception by TV viewers as well as handicapping communication by licensed amateur radio operators.

Dr. Wayne Overbeck (N6NB), a Professor of Communications at California State University (Fullerton) conducted initial research in the area of restrictive covenants in new housing developments in Los Angeles, Dallas/Fort Worth and Chicago at a time when the FCC had proposed the use of "A/B" switches as a means of assuring the availability of local broadcast signals to viewers - even if those viewers were cable subscribers on systems which might not carry all local signals.

Dr. Overbeck's study was first presented at the *Western Communications Educators* annual conference (San Diego/November 1986) where it won first place as the best research paper and later published in the *Mass Comm Review* under the title "A Free-Marketplace Myth: The new 'Must Carry' Rule, A/B Switches and Deed Restrictions."

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The field study indicates that outdoor antennas are generally precluded in new, major metropolitan residential tracts. Dr. Overbeck argues that the "A/B" switch option might be meaningless if over-the-air television reception is inhibited by other factors, such as covenants prohibiting outdoor television antennas.

"If outdoor antennas are in fact prohibited in most new housing developments, this would have a profound long-range impact on mass communications in America. It would mean that real-estate developers could eventually limit the television viewing alternatives for a large percentage of the population. In the end, homebuilders, not the FCC or even the free marketplace, might determine the fate of the competing electronic communication technologies by denying some an adequate customer base while providing others a very strong customer base," Overbeck determines in his study.

The League added that "...in the view of the developer, homeowner's association or architectural control board, there 'is no need' for anyone to have an outdoor antenna. While it is true that the FCC has limited local zoning regulation of both amateur antennas and home satellite dishes, no government action has been taken limiting covenant regulation. The FCC said "[covenants are] private contractual agreements voluntarily entered into by the buyer or tenant when the agreement is executed and do not usually concern this Commission," in their 1985 **PRB-1 Amateur Radio Preemption** ruling.

RESEARCH BY DR. WAYNE OVERBECK

Overbeck completed part of his study by examining the Sunday *Los Angeles Times* Real Estate Section on a given date listing new housing developments advertised in three Los Angeles counties far from Mt. Wilson, the site of most television transmitters in Los Angeles. In these counties, television reception generally requires outdoor television antennas.

The sales office in each development was visited and the *Declaration of Covenants* (required by California law to be available) was examined. Dr. Overbeck's findings were startling. "Every single new housing development in Orange or Ventura County was found to have a deed restriction prohibiting all outdoor antennas. Only in the more rural and inexpensive areas of Riverside County was there a variation in the pattern."

Many of the deed restrictions examined contained virtually identical language forbidding antennas, suggesting not only that real estate developers have reached a consensus that outdoor antennas should be prohibited, but also that the language has become standardized among the law firms that often draft *Declarations of Covenants*.

Planned communities consisting of multiple developments are often governed by one master *Declaration of Covenants* which prohibit antennas in the entire town. Mission Viejo in southern Orange County is one such example.

The 54 new housing developments visited by Dr. Overbeck led him to conclude that by prohibiting outdoor antennas in communities where it is not possible to obtain good television reception with an indoor antenna, home buyers have no choice but to subscribe to cable television. The same study leaves one to conclude that amateur radio can only be conducted in rural areas or in older homes.

How old a home must be in order to escape from anti-antenna covenants is subject to same variation. League studies on the matter reveal that antenna covenants began to proliferate in the early to mid-1970's, during the hey-day of the *Citizen's Radio Service*, when rooftop antennas for that Service became numerous.

In April of 1987, Dr. Overbeck visited new housing tracts in the Dallas/Fort Worth area. In September and October, 1987, he visited new housing tracts in the San Francisco Bay area. In Dallas/Fort Worth, having examined 35 *Declaration of Covenant* documents, it was determined that 11 prohibited outdoor antennas altogether, 10 permitted radio and television receiving antennas (one per lot) while banning all others and 5 imposed severe height limitations on antennas. Their purpose was to permit television antennas while prohibiting amateur or other antennas. The other nine, each rural, large acreage subdivisions distant from Dallas, had no prohibitions.

In San Francisco, 18 new developments were inspected and deed restrictions limiting antennas were present in all but three developments. In a fourth tract, outdoor antennas were available only until cable television service was installed. Outdoor antennas were prohibited thereafter. Among the other 14 developments, 9 prohibited all outdoor antennas, and the remaining 5 required architectural

WOULD YOU LIKE TO BECOME A VOLUNTEER EXAMINER?
I am a currently licensed Extra Class amateur radio operator and
wish to be a volunteer examiner. I have never had my
operator license revoked or suspended. I do not own a significant
amount of property in a city or town where a significant
number of people are licensed amateur radio operators.
I am a currently licensed Extra Class amateur radio operator and
wish to be a volunteer examiner. I have never had my
operator license revoked or suspended. I do not own a significant
amount of property in a city or town where a significant
number of people are licensed amateur radio operators.

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control board approval or homeowner's association approval. In those 5, not a single outdoor antenna had been installed, though all of the homes had been occupied for at least one year.

The League, following Dr. Overbeck's methodology, has examined other areas. In the Baltimore/Washington corridor, for example, antenna covenants are inescapable in all new housing developments, though the tendency is to submit the home buyer to the whims of the homeowner's association rather than to prohibit antennas outright. ARRL says "With the extremely large and growing population in the fringe area of both the Baltimore and Washington television stations, an outdoor antenna is critical for a large number of persons, in order to view UHF and most VHF broadcast television. Cable subscription becomes a powerfully attractive alternative in such circumstances.

The ARRL concludes in its extremely well done submission that "it is apparent that vast numbers of people are unable to erect outdoor antennas. As a result, they cannot receive many broadcast television signals. *The proliferation of restrictive covenants makes it impossible to cast the issue aside by calling them 'private contractual agreements.'*"

ARRL said they were not suggesting a specific remedy, but only to build a factual record. "...the plight of the television broadcaster in this connection is less than that of the radio amateur, and the ad hoc regulation of interstate communications by covenant is so extensive as to require the Commission's immediate attention, in this proceeding and otherwise."

(Summary of ARRL comments on MM Docket 88-138 dated July 8th and submitted by its counsel, Chris Imlay, N3AKD)

AO-13 ERA BEGINS WITH A ROAR!

Thousands of satellite communicators welcomed the newest OSCAR amateur communications satellite to life on Friday. The satellite was first turned on for the general ham use at 1500 UTC, July 22.

The preannounced operating scheduled had to be modified since the satellite attitude had not reached the proper orientation by Friday. The re-orientation from the second kick motor firing attitude has taken longer than expected. When properly

situated, the spacecraft's antennas will be pointing directly at earth's center at its highest point (apogee). The modified schedule had Mode B (435 MHz uplink/145 MHz downlink) running from MA 56 to 210.

[Note: Each MA (Mean Anomaly) unit equals 2.6834 minutes. This is calculated by taking the period of the orbit (686.96 minutes) and dividing it into 256 parts. The MA clock resets to zero at perigee (high point of orbit.) Half way through the highly elliptical orbit, the MA clock equals 128 at apogee. Thus the Mode B transponder was on nearly seven hours as OSCAR-13 was descending, reaching the low point and going back up again.]

Controllers say that OSCAR-13 will be properly oriented in a few days and the full operating schedule including Mode L (1269 MHz uplink/439 MHz downlink) should now be in effect.

When turned on, the Mode B transponder was using its low gain (monopole) receive antenna on 435 MHz (70 cm.) and was transmitting on its high gain 2 meter array for the downlink. Use of the low gain uplink antenna was apparently mandated by the off-pointing of the satellite.

The use of the low gain uplink antenna imposed at least a 9 dB penalty in link performance on the uplink ...and perhaps more. The high gain 70 cm array, three phased dipoles over ground, has a gain of 9.5 dBi. The monopole gain is only about -2 dBi. Later when the Mode B session ended, the 2 meter downlink reverted to the 2 meter monopole. When the satellite is properly oriented, which will allow the use of the high gain arrays on both Mode B uplink and downlink, the performance should be quite remarkable.

The satellite operated on Orbit 80 from 1500 UTC to about 1852 UTC. Operations over Europe were reported moderate. Apparently word had not circulated widely in Europe that AO-10 was to be turned on that afternoon.

The next Mode B operation over the Western Hemisphere was anything but moderate. An army of operators numbering probably in the high hundreds - or even thousands - pounced on Mode B at exactly 2326 UTC. Among the swishing and whining, virtually no one could find their downlink not to mention carry on a QSO. If OSCAR-13 wanted to know what it felt like to be bombarded with RF from

hundreds of 70 cm transmitters at once, its wish was fulfilled at that instant.

Fortunately, things got sorted out in an hour or two. By halfway through the nearly 7 hour Mode B episode, many friendly QSOs were under way between old friends who renewed past acquaintances put on hold since OSCAR-10's decline.

Towards the end of the Orbit 81 episode, in fact, operating conditions had improved so much that many were obliged to substantially reduce their uplink power to avoid embarrassingly loud downlinks. This was a far cry from the first few minutes of Orbit 81 Mode B operations when a blanket of white noise cloaked the entire passband.

Many were discouraged by the unpleasant surprise which unfolded at 2326 UTC. These folks will be back when more "regular" operating conditions prevail as indeed seemed the case even towards the end of Orbit 81. Mode B users running 10 watts barefoot were comfortable into the transponder late in the orbit.

What seemed most remarkable, many users said, was how well the satellite was performing late in the orbit even while under considerable load from many, many users and under the penalty of the low gain 70 cm receive antenna.

The outpouring of enthusiasm, despite the initial chaos was heartening according to AMSAT officials. Once the initial chaos and surge of would-be AO-13 users subsided, AMSAT-NA's "First Day Club" Special Event stations were able to log hundreds of stations. These stations then became eligible for their "First Day Club" awards.

"First Day Club" Special event stations were operated from various locales by AMSAT veterans such as K8OCL, WA3WBU, K9NO, K7RIE, W8GQW, KL7GRF and VE7XQ. Together they logged several hundred stations throughout the Western Hemisphere.

Planning for the "First Day Club" special event was hobbled by the uncertainty of the exact "turn-on" day. AMSAT officials said they would have liked to have had more lead-time in planning the event but added the uncertainties experienced are fairly common in the transition of a system from the engineering to operations phase. When it appeared the turn-on date coincided with onset of a

weekend and would be viewable in the target area, it was decided to go ahead even with the short lead-time.

To receive their award certificates and "First Day Club" QSLs, participants need to promptly send an SASE to: AMSAT, "First Day Club", P.O. Box #27, Washington, DC 20044. Please indicate your callsign and your AMSAT member number, if any, in your letter. This is essential. Without the SASE and your call and member number, AMSAT will be unable to process your award. There is no charge for the award but donations to cover costs are always very much appreciated.

Once AO-13 has reached its proper orientation, the operating schedule (subject to confirmation) has been announced as:

Mode:	From	Thru	Duration	
			MA	Minutes
Off	MA 225 -	MA 29	61	163.7
Mode B	MA 30 -	MA 97	68	182.5
Mode L	MA 98 -	MA 157 *	60	161.0
Mode JL	MA 98 -	MA 157 **	60	161.0
Mode B	MA 158 -	MA 224	67	179.8
Mode S	(Mode-S operations will begin when sun angles permit; likely in September.)			
RUDAK	Same as Mode L.			

(* = Daily, ** = Weekends only)

[Watch for possible changes to this schedule as posted on the AO-13 General Beacon, 145.812 MHz.]

(Above information provided by AMSAT's Vern Riportella/WA2LQQ >)

• "Membership is up at the ARRL!" says a flyer sent out by the League to its advertisers. The cost per thousand for a full page of advertising drops to \$19.00 (63.4 cents per column inch.) According to a sworn statement, the average QST paid circulation for the six months ending December 1987 was 146,176; ...for the six months ending June 1988, 150,184. (June's circulation was 152,668.) Average of 142,410 issues go to ARRL members.

• The Japanese Telecommunications Bureau of the Ministry of Posts & Telecommunications says **Japan has 1,608,128 amateurs** as of March 31, 1988. Breakdown: *First Class* 12,615, 100 Watt *Second* 48,224, 10 Watt *Telegraph* 89,153 and (no-code) **Telephone 1,457,976**. The 10 Watt voice license allows HF operation without code proficiency! (JARL reported its membership at 143,626.)

AMATEUR RADIO QUESTION POOLS
POC IN JE (L) m.
brdes. 1.5m.
1 Ea. 5-9 \$ 100 \$ 3.50 \$ 4.00
10 or more (Qty.) \$ 1 plu. tag \$ 3.00 plus postage
Novi- Technician 3(A)

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Jack Spear, N1BIC, of **Buckmaster, Inc.** (Route 3, Box 56, Mineral, VA 23117) gets the monthly computer FCC data tapes of all licensed amateur radio operators. He ran the FCC Master File of all U.S. licensed ham radio operators as of year end 1987, sorted by year of birth and license

class. The *Master File* contains not only currently licensed amateurs but also those amateurs who are still within the grace period and can therefore retain their license/call sign status without retesting. The average U.S. ham (born in 1938) is a 50 year old General Class male according to Jack's data.

Ham Operators - December 1987 - Broken out by Year of Birth and License Class

Year	Total	Extra	Adv.	Gen.	Tech.	Nov.	Year	Total	Extra	Adv.	Gen.	Tech.	Nov.
1895	122	31	37	42	6	6	1940	9934	1143	2081	2758	1947	2005
1896	169	32	48	63	15	11	1941	10765	1100	2236	2920	2215	2294
1897	227	45	69	84	13	16	1942	12632	1390	2755	3325	2587	2575
1898	329	58	104	115	21	31	1943	12252	1349	2595	3160	2518	2630
1899	374	76	120	116	39	23	1944	10791	1093	2271	2708	2337	2382
1900	538	71	191	191	39	46	1945	10280	1063	2203	2615	2159	2240
1901	630	73	231	233	52	41	1946	11855	1236	2533	2704	2651	2731
1902	875	83	336	314	74	68	1947	12993	1276	2782	3123	2862	2950
1903	1104	85	479	372	106	62	1948	10780	1062	2260	2499	2346	2613
1904	1488	120	583	554	127	104	1949	10128	944	2116	2257	2263	2548
1905	1986	153	790	701	205	137	1950	9238	789	1886	1963	2061	2439
1906	2548	219	1021	860	238	210	1951	8944	760	1895	1805	2028	2456
1907	2983	220	1167	1045	318	233	1952	8666	715	1771	1779	2001	2400
1908	3285	279	1217	1115	415	259	1953	8134	622	1751	1520	1915	2326
1909	3235	267	1128	1128	411	301	1954	7373	541	1376	1424	1781	2251
1910	3500	274	1203	1218	466	339	1955	6512	451	1224	1220	1532	2085
1911	3632	262	1262	1234	500	374	1956	5864	433	999	1057	1412	1963
1912	4053	330	1307	1413	587	416	1957	5370	363	893	995	1263	1856
1913	4622	381	1495	1558	685	503	1958	4676	307	665	870	1051	1783
1914	5391	468	1797	1797	713	616	1959	4536	217	600	835	1031	1853
1915	5971	544	1937	1939	873	678	1960	4662	251	556	879	971	2005
1916	6238	548	1973	2070	908	739	1961	5043	252	533	981	909	2368
1917	6975	718	2079	2377	984	817	1962	4966	217	396	885	770	2698
1918	7722	702	2328	2617	1172	903	1963	4812	180	334	823	665	2810
1919	7403	649	2255	2407	1154	938	1964	4193	125	230	639	540	2659
1920	8524	738	2441	2888	1361	1096	1965	3509	91	123	423	441	2431
1921	9107	804	2490	3112	1404	1297	1966	3140	72	119	354	375	2220
1922	8623	681	2293	2991	1337	1321	1967	2727	66	95	232	294	2040
1923	8456	668	2197	2970	1344	1277	1968	2297	36	63	174	303	1721
1924	8873	591	2163	3177	1533	1409	1969	2088	21	50	131	231	1655
1925	8713	615	2033	3074	1607	1384	1970	1635	10	18	71	138	1398
1926	8398	586	1888	2944	1622	1358	1971	1291	5	12	58	88	1128
1927	8214	570	1841	2735	1692	1376	1972	786	6	3	25	41	711
1928	7962	539	1765	2656	1646	1356	1973	391	0	3	6	29	353
1929	7633	533	1708	2406	1587	1399	1974	172	0	0	4	7	161
1930	7958	563	1759	2566	1672	1398	1975	81	0	0	2	2	77
1931	7776	577	1720	2494	1601	1384	1976	35	0	0	1	1	33
1932	7534	595	1606	2316	1581	1436	1977	7	0	0	0	0	7
1933	7022	560	1470	2101	1523	1368	1978	2	0	0	0	1	1
1934	7344	593	1541	2124	1574	1512	1979	0	0	0	0	0	0
1935	7375	575	1533	2182	1588	1497	1980	9	3	1	1	2	2
1936	7570	645	1529	2173	1585	1688	1981	1	0	0	0	1	0
1937	8157	785	1690	2325	1710	1647							
1938	9154	918	1917	2592	1823	1904							
1939	9183	969	1885	2576	1824	1929							
							Totals:	462496	37982	102054	125191	87504	109765
								100.0%	8.2%	22.1%	27.1%	18.9%	23.7%

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AMATEUR RADIO CALL SIGNS

...issued as of the first of July 1988.

Radio District	Gp."A" Extra	Gp."B" Advan.	Gp."C" Tech/Gen.	Gp."D" Novice
0	WK0B	KE0WN	N0JMN	KB0CYK
1	NS1G	KC1KC	N1FVG	KA1SIH
2	WI2D	KE2HU	N2IJP	KB2GAX
3	NQ3T	KD3IJ	N3GIW	KA3TJA
4 (*)	AB4IW	KM4DY	N4TFY	KC4GAT
5 (*)	AA4GR	KG5LG	N5MUL	KB5GTF
6 (*)	AA6JH	KJ6IV	N6SOW	KB6ZBI
7	WQ7F	KF7LM	N7LIA	KB7FIZ
8	WI8F	KE8ST	N8JRE	KB8FEJ
9	NZ9R	KE9LN	N9HPL	KB9BDW
N. Mariana Is.	AH0F	AH0AE	KH0AK	WH0AAH
Guam	KH2K	AH2BY	KH2DH	WH2ALQ
Johnston Is.	AH3B	AH3AC	KH3AB	WH3AAC
Midway Island		AH4AA	KH4AD	WH4AAF
Palmyra/Jarvis	AH5A			
Hawaii	(**)	AH6JC	NH6PS	WH6BZC
Kure Island			KH7AA	
Amer. Samoa	AH8C	AH8AD	KH8AG	WH8AAX
Wake Wilkes Peale	AH9AD	AH9AD	KH9AD	WH9AAH
Alaska	(**)	AL7KB	NL7OF	WL7BRV
Virgin Islands	KP2Y	KP2BN	NP2CR	WP2AGA
Puerto Rico	(**)	KP4PK	WP4PX	WP4IBR

NOTE: * = All 2-by-1 format call signs have been assigned in the 4th, 5th and 6th radio districts. 2-by-2 format call signs from the AA-AL prefix block now being assigned to Extra Class amateurs. ** = All Group "A" (2-by-1) format call signs have been assigned in Hawaii, Alaska and Puerto Rico. Only one Group "A" call sign left in the Virgin Islands! Group "B" (2-by-2) format call signs are assigned when Group "A" run out.

AMATEUR CALL SIGN ASSIGNMENT

Call signs are of monumental importance to ham operators. Over the years there have been different systems for assigning or changing amateur call signs. The present system took effect on March 24, 1978. The major changes were...

- (1) the FCC said that they would not honor requests for specific call signs;
- (2) amateurs would be permitted to hold only one call sign;
- (3) no new secondary or special event call signs would be issued in the future;
- (4) holders of secondary call signs were permitted to transfer them to primary status and;

all secondary call signs were ordered cancelled on October 1, 1978.

The FCC developed five call sign groups;

Group A (available to Extra Class amateurs) contained most 1x2, and certain "A" prefix 2x2 call signs;

Group B (available to Advanced Class) contained most "K", "N", and "W" prefixed 2x2 call signs;

Group C (Available to Technician and General) contained most "N" and "W" 1x3 call signs;

Group D (Available to Novice) contained most "K" and "W" prefixed 2x3 call signs and;

Group X contained "WC" (RACES), "WK" (Club), "WM" (Military), "WR" (Repeater) and "WT" (Temporary) prefixes. Group "X" (2x3 format) call signs were *never* implemented, however. The FCC decided against it in a further rulemaking, but the prefixes are still held in reserve to this day.

"Simplification of the Licensing and Call Sign Assignment Systems in the Amateur Radio Service" came about as a result of a proposal by the FCC. Docket 21135 was released on March 11, 1977, after a very messy scandal which saw an FCC Gettysburg official go to prison for selling ham call signs at \$100 each. Effective March 24, 1978, all amateur call signs were assigned in the following strict order.

Ham Call Sign Prefix Block Sequence Order:

Contiguous (Continental) U.S.A.

Group A: AA-AKx1 (1), KA-KZx2 (2), NA-NZx2 (3), WA-WZx2 (4), AA-AKx2, ...then Group "B".

Group B: KA1x2, KB-KZx2 (2), NA-NZx2 (3), WA-WZx2 (5), ...then Group "C".

Group C: All Nx3, Wx3, ...then Group "D".

Group D: KA-KZx3 (2), WA-WZx3 (4)

Notes: AA-AKx1 = All prefixes AA through AK followed by a geographic radio district numeral and one letter. (1) *Except* AH, AL; (2) *Except* KH, KL, KP; (3) *Except* NH, NL, NP; (4) *Except* WH, WL, WP; (5) *Except* WC, WH, WK, WL, WM, WP, WR, WT.

Non-Contiguous (Non-Continental) U.S.A.

	(Area) Pacific	Alaska	Atlantic
Group "A" (2x1 format)	AH, KH, NH, WH	AL, KL, NL, WL	KP, NP, WP
Group "B" (2x2 format)	AH	AL	KP
Group "C" (2x2 format)	KH, NH, WH	KL, NL, WL	NP, WP
Group "D" (2x3 format)	KH, WH	KL7, WL7	KP, WP

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• **Look for a new FCC Chairman** on January 20th ...even if George Bush becomes president. Rumors are that **Thad Garrett**, a black political consultant and Bush campaign advisor, is in line to replace **Dennis Patrick**. Meanwhile, Reagan administration nominees to fill FCC commissioner vacancies, **Brad Holmes** and **Susan Wing**, apparently will not be confirmed before the election and their nominations will automatically expire. **Senator Hollings**, Senate Commerce Committee Chairman, won't hold the confirmation hearings since he is annoyed with the FCC's repeal of the *Fairness Doctrine* which mandates equal response time. Thus it is probable that the new president will be immediately selecting three of the five FCC commissioners.

• **Sesquicentennial of the Telegraph.** Samuel F. B. Morse and Alfred Vail built a device that recorded dots and dashes on paper in 1838. The Morse code not yet thought of, only numbers were sent and a telegraphic dictionary was needed to translate the numbers into words. The idea for the telegraph dawned on Morse some five years earlier on his way home by ship from Europe. A shipboard conversation about the properties of electricity got Morse thinking about electrical signalling. By the time he arrived in New York, Morse had sketched out his plans for a crude recording telegraph. His electromagnet was fashioned from copper wire wound (insulated) with cotton thread. In 1837, Alfred Vail, became Morse's partner. Although their device was demonstrated at Morristown, New Jersey, in 1838, the U.S. patent for the telegraph was not issued until June 1840 and construction of an actual line waited until Congress appropriated \$30,000 in March 1843. The first official message was sent over that experimental line between Washington, D.C., and Baltimore in May 1844: "What hath God wrought." 1988 marks the 150th birthday of the digital communication. On May 7, 1988, a ceremony was held at Morristown, dedicating the telegraph as an **IEEE Electrical Engineering Milestone**. An IEEE conference was held on June 21-22 entitled "Telecom at 150: Progress, Promises and Policies." (IEEE Newsletter)

• A bill has been passed in the House to allow broadcast and cable stations to **telecast Bingo**. Senate now has to act on the measure. The Senate has a bill which makes it a crime (\$2,500 plus punitive damages) to reveal **consumer video rental preferences**. It also is aimed at barring employers from investigating employees preferences in books and videos. House also considering their version.

• A Better Business Bureau survey on television shopping services concludes while occasional bargains are available, **claimed savings are frequently exaggerated**. The survey involved 1,818 shopping trips to retail stores. In 255 price comparisons on the same products sold by TV shopping services and retailers located in the TV viewer's community, local stores were usually lower. BBB did not find claimed TV retail prices or reference prices to be accurate.

• Cuba has stepped up its own AM radio operations that interfere with U.S. radio stations. Broadcasts are believed to be the Cuban answer to a Congressional move to create a television version of Radio Marti, the Reagan administration's news service beamed to Havana. **TV Marti** has a budget of \$7.5 million for fiscal 1989.

• The National Association of Broadcasters oppose an FCC proposal which would **deregulate non-licensed Part 15 devices**. NAB says it will result in increased interference to authorized broadcast services - particularly in view of the anticipated increase in the number of these devices. The FCC says in *Docket 87-389* that it intends to allow low power rf devices to operate on virtually any frequency (including the ham bands), using any bandwidth, duty-cycle and modulation method.

• **Electronic bandages** supposedly heal wounds faster. The bandage is covered with a "treatment antenna" that releases a low level of battery-powered radio frequency energy. The bandage is kept on the wound for 14 days and then discarded. *Bioelectronics, Inc.* has trademarked the name "electronic bandage." Wounds supposedly heal 30% faster, are less painful, swell less, chances of infection are reduced and the quality of the newly formed skin is improved. Eventually electronic bandages will cost \$5.00 each.

• Microsoft announced a **new MS-DOS Version 4.0** on July 19th which includes support for hard-disk files greater than 32 MB. MS-DOS 4.0 also features 20 additional enhancements.

• **"Improved Definition"** (although not HDTV, high definition television) sets, were introduced at the recent *Consumer Electronics Show* (Chicago) by Netherland's based *Philips Consumer Electronics Co.* Retails run \$1,500 an up. Sony and Toshiba also have them. You'll pay twice as much for the better resolution. Nintendo introduced a

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"Power Pad" plastic mat that interfaces to their video games. Users control games by running and jumping at precise places on the large pad. Indoor track meets, skate board games and who knows what all are controlled from the (\$150 cost) pad. *Panasonic* had a (\$550) VCR that can be remotely programmed by a push button telephone. *Sharp* showed a three component video system that are linked by optical technology. There are no wires between the TV screen, the VCR or the TV tuner. *Audio Design Associates, Inc.* has an electronic control box that allows owners to switch between as many as eight sources of video and audio sources. *Casio, Inc.* debuted a still camera that records digital photographs on floppy disks and a "Digital Diary" that stores up to 2,000 names and phone numbers. *Code-A-Phone* has an answering machine that allows users to leave secret messages for specific callers only.

- Apparently the FCC are having some **problems in their public reference rooms**. The *Washington Post* and *Electronic Media* both say that they are a mess. A congressional report says many files are not available or misfiled, public documents are frequently illegally removed from the crowded, noisy, poorly ventilated reference rooms that are understaffed with rude, abusive employees who fail to provide the public with accurate, timely and convenient access to information. FCC, who must report by September 30 on corrective action taken, was very unhappy with the report and announced it would seek more funding from Congress to automate its reference facilities so users can call up documents on computer screens. There is little chance they will get it. The Senate Appropriates Committee has approved \$101.6 million for the FCC's 1989 fiscal year - 3% more than their current budget but less than needed. Patrick said *10% of the agency's 1,770-member staff will have to be cut*. He had requested \$104.7 million

- Business Week tells of the West German Based **Chaos Computer Club**, a group of 300 hackers. Club founder, Herwart Holland, 36, circulates a weekly newsletter (circulation 3,000) and his "Hacker's Bible" (25,000 sold) is the standard text on how to break into computer systems around the world. Chaos members meet weekly and pay \$66.00 a year dues. Despite the club's name, Holland says they are against electronic mischief although "members can't resist a challenge."

- Kenwood has a new 144/220 MHz FM dual-

band **TM-621A transceiver** with all the bells and whistles. (30 memory channels, dual frequency LCD display, automatic band change, receives both bands simultaneously, dual antenna ports, programmable scanning ...and more.) Lists for \$699.95. 45 watts on 2 meters, 25 watts of 220 MHz.

- SMIRK, **Six Meter International Radio Klub**, reports that working DX on six meters is not at all uncommon. West coast stations have been working Japan, with eastern and midwestern amateurs experiencing openings to Europe! SMIRK wants future HF DXpeditions to include six meter operation in their plans. Most of the SSB activity is between 50.1 and 50.2 MHz. "During the peak of the last cycle, we here in the U.S. worked Europe, Africa, Japan, most of South America, the Caribbean, much of the Pacific, including Australia, and New Zealand, and many, many of the rare islands around the world," **Ray Clark, K5ZMS**, SMIRK #1 writes.

- More on **TheNet** and **NET/ROM** software controversy, (See June 1st issue.) Professional software programmer, **Ronald R. McCallister, N7FYA** of Tacoma, Washington, was given permission by **Ron Raikes/WA8DED** of *Software 2000* to disassemble the code of **NET/ROM** in an effort to make a comparison with *Nord* <Link's **TheNet**. He says that the two products are very much alike but are definitely not the same. **TheNet** has some distinct differences that make it the better of the two packet network controllers. He also said that it is understandable that the code would be very similar.

- The July 4th issue of *Insight* magazine tells about automobile manufacturers routinely subjecting their new models to "sweep frequency tests" to check their immunity to a broad range of electronic pollution. As a result, haywire circuits are no longer a major cause of accidents ...opening the door for the coming invasion of drive-by-wire technology, including on-board navigation and collision-warning systems. Automakers biggest headache in the future may be **owners who tamper with the electronic equilibrium** of their cars, perhaps by doing a bad job of installing a two-way radio or cellular telephone. "I've seen ham radios in automobiles that could sterilize you because of improper grounding," says Wesley Rogers, a former auto executive who now runs *Electronic Development, Inc.* "Illegally souped-up CB radios, common among truckers, have been known to disrupt the electronics of passing cars and even the pumps at gas stations."

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• The July 14th *San Diego Union* reports that James Earl Fike has been found guilty in federal court of **jamming San Diego (CA) police radio** frequencies. Fike's arrest last February grew out of an FCC investigation into unauthorized radio transmissions on police radio channels. Using radio direction finding equipment, the FCC located a pickup in the parking lot of the La Mesa post office. Search warrants were obtained and a list of police radio frequencies were found in Fike's possession and a portable programmable radio was available for his use. Fike, who will be sentenced August 31, faces up to a year in prison and a \$100,000 fine.

• **Scientists are keeping a keen watch on Sunspot Cycle 22** which began less than two years ago (September 1986). If it continues on its apparent course, it could easily rival the record cycle of the late 1950's in number of spots! Astrophysicists at the National Oceanic and Atmospheric Administration (NOAA) say that the number of sunspots is rising at an unusually rapid rate. "Some scientists are predicting that this may be one of the largest solar cycles on record, with activity hitting an all-time high." *Patrick McIntosh*, a solar scientist at the agency's Space Environment Laboratory in Boulder, Colorado, says "All of the indicators are suggesting it will be as large as Cycle 19, the largest one on record, which occurred during the late 1950's." Solar cycles take 4.3 years to hit a peak and then roughly 6.6 years to settle down to a minimum again. Their total duration can range from 10 to 12 years. *George Withbroe*, associate director of the Harvard-Smithsonian Center for Astrophysics observes "It's like a kid who is growing up very fast. His parents wonder if he is going to turn into a 7-footer or just top out early at 6 feet. It is possible that all this early solar activity is just a hiccup in the cycle. There is a chance that it could peak early and turn out to be just above average. But so far we do think it could parallel the largest cycle previously on record." While a strong Sunspot Cycle 22 is of particular interest to ham operators since they will be able to work DX around the clock on the higher HF frequencies, it does have its drawbacks. It could disturb electric power systems, telephone cable networks and certain bands of radio and television broadcast. Particularly vulnerable are the short-wave radio bands used for international broadcasting, airline signals, ship-to-shore communication and some radio surveillance systems. One thing seems certain at this point. **Sunspot Cycle 22 could "run anywhere between a larger than average one and a humongous one."** (*Insight*

magazine, August 1, 1988, pages 54 and 55)

• If the FCC has its way, you may get **cable television delivered by your telephone company**. The FCC says it intends to allow telcos to enter the cable television business in the same areas it allows phone service. The proposal might be just what is needed to get phone companies to start fiber optic "wiring" (estimated at \$2,500 per subscriber) of residences. It costs four times as much to hook up a subscriber to a glass strand as it does to copper wiring. Fiber optic (lightwave) wiring of homes also allows phone companies to provide two-way services, pay-per-view TV, security, interactive video and a host of new services on the same conduit -something that copper wiring can't do.

• Suffolk County (Long Island, New York) is the first municipality in the nation to **enact an ordinance applying to VDT's** (video display terminals). Employers will now be required to provide special furniture, lighting and regular work breaks to computer terminal users. Of special concern to businesses, however, is the requirement that employers having 20 terminals or more pay 80% of the cost of annual eye examinations and eyeglasses. New York Telephone says it will lay off directory assistance operators in Suffolk County rather than go along with the new ordinance. A Long Island business group intends to sue Suffolk County officials on the basis that they exceeded their authority. The new guidelines became law in mid-June.

• **Long distance phone calls from hotels** is getting to be very expensive. AOS (*Alternate Operator Services*) are springing up that manage long distance telephone service for hotels. Charges **up to ten times AT&T rates** are not uncommon. AOS companies (which are not regulated like telephone companies) advise hotels how much to charge and then kick back up to 33% of the long distance business to the hotel.

• Using radio frequencies, automatic **high-tech electronic meter readers** are transmitting electricity usage readings over power lines to a neighborhood command center in Dayton, Ohio. In addition, the system can be linked to in-home motion sensors to provide residential security service.

• Texas has one **answer to overcrowded prisons ...home confinement!** Inmates not considered harmful are imprisoned at their home after being fitted with a radio transmitting device that

warns authorities if a prisoner leaves home without authorization. Dallas based *Program Monitor, Inc.*, "watches" prisoners at a daily cost of \$7 - versus \$40 a day for traditional imprisonment.

- *Soldier of Fortune* magazine is running classified **advertisements for "military electronics"** which make use of the six-meter ham band. The August 1988 issue has ads from Baytronics (P.O. Box #5912, Sandusky, Ohio 44870) and ARS Electronics (Box 265, Waterville, NY 13480) for six meter walkie-talkie transceivers. Neither advertisement indicates an FCC amateur license is required although a general disclaimer at the beginning of the classified section does indicate some products "may be restricted, prohibited or subject to special licensing requirements." Both firms will evidently sell to anyone! The Baytronic *CPRC-26 Infantry 50-54 MHz radio* costs \$32.50 for a pair. ARS Electronics sells their military *PRC-6 51-MHz radios* for \$59. *Soldier of Fortune* has some of the weirdest advertisements imaginable for surveillance, underground, covert operation, ...and other highly questionable uses. Want to buy a "protector" puppy from a dog breeder that specializes in crossing German Shepherds with timberwolves?

- An editorial in the July 1988 issue of NABER's *Mobile Radio Technology*, **criticizes the many advertisements** for the 440-450 MHz (ham spectrum) Eagle Hand-Held transceiver. (NABER is the *National Association of Business and Educational Radio* which coordinates use of all business radio frequencies.) Fordham Radio (Hauppauge, NY) is the latest to sell the "*Supercall Eagle-1 FM/UHF Mini Transceiver*." Their catalog does make mention of a needed license but doesn't say which one and promotes the radio for business use. "Speak to co-workers, foremen, managers on the job, in the warehouse ...or on the construction site," all illegal uses - even if licensed!

- The **General Accounting Office is after the FCC again** ...or we should say still. The General Accounting Office is the nation's auditor and watchdog over our public servants. This time the GAO charges the FCC has botched the handling of radio spectrum used by police and other public safety organizations for two-way communication. The GAO report (which was requested by Rep. Howard Nielson, R-Utah) questions the reallocation of unused UHF-TV broadcast spectrum to public safety communications. Broadcasters are claiming they will eventually need the spectrum for HDTV -

high definition (resolution) television services.

- Four Albany, New York men have been indicted on 86 counts of **illegally selling cable television and satellite descramblers**. Each defendant could receive jail terms up to five years and \$250,000 fines on each count. Meanwhile, *General Instrument* has mailed out hundreds of "cease and desist" notifications to satellite TV dealers suspected of illegally modifying the company's *VideoCipher II* descramblers. Copies of the letter were also sent to the FBI's Fraud & Copyright Division.

- The backyard satellite dish industry plans a national promotion to be called "**October-Fest.**" The promotion is designed to stimulate consumer interest in and awareness of the value of a home satellite TV system. The promotion will be handled professionally and has a budget of \$300,000.

- There are now **more VCR's in use than there are cable subscribers!** Nielsen rating service estimates VCR penetration has reached 58.1 percent versus cable's 51.7% penetration. Rating services are now measuring videocassette playback.

- On June 6th, *Bradford A. Mitchell* of Niles, Michigan, was **sentenced to one year imprisonment** for illegal overpower operation of a CB radio transmitter. The one year sentence is suspended after the first 90 days. Mitchell will then be placed on probation for three years and must perform community service as determined by his probation officer. He also received a fine of \$1,025 and his CB equipment was ordered forfeited to the government.

- **The Boy Scouts will be on the ham airwaves** in force the third weekend in October! JOTA (Jamboree on the Air) is an annual amateur radio scouting event. Thousands of stations around the globe participate and it is not uncommon to work Scouting DXCC if propagation is right. Look for K2BSA from Texas, HB9S, the World Scout Bureau headquarters in Geneva, Switzerland, TI2CIE, the World Bureau Inter-American Region headquarters in Costa Rica, GB2GHP, Gilwell Park, England ...and for other special scouting call signs from many countries. JOTA is scheduled for October 15-16 on 3590, 7030, 14070, 21140, 28190 CW and 3940, 7290, 14290, 21360, 28350 voice. Packet, RTTY, SSTV, ATV operation also planned. Last year more than 12,000 participation certificates and 4,500 patches were distributed.